

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF :
YASUYUKI TANAKA, ET AL. :EXAMINER: SCOTT, ANGELA C
SERIAL NO.: 10/566,730 :
FILED: FEBRUARY 2, 2006 :GROUP ART UNIT: 1709
FOR: NATURAL RUBBER FREE FROM :
PROTEINS, AND COMPOISTION AND
USE THEREOF

DECLARATION UNDER 37 C.F.R. 1,132

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

I, Yasuyuki Tanaka, am one of the inventors of the present application. I give the following testimony as to Fig. 4 attached to the specification of the present application.

1) Fig. 4 shows the results of SDS-PAGE measurement for obtaining the molecular weights of proteins contained in solid rubber obtained by solidifying the saponified natural rubber latex of the present invention with an acid. The proteins were extracted from the solid rubber with SDS/water as samples.

2) Lane 1 shows a molecular weight marker measured for the calibration of molecular weight at the same time. This is a commercially available reagent prepared by mixing together several proteins having a known molecular weight. Seven different proteins having a molecular weight of 6.5 to 200 kDa are used as markers. These proteins appear as bands having a deep color and a narrow width corresponding to their molecular weights. A protein having a higher molecular weight appears as a narrower band. For example, a protein having a molecular weight of 6.5 kDa appears as a wide band because the longitudinal axis shows a logarithmic scale. This separation state can be changed by altering the measurement conditions.

3) Lane 2 shows an example of a natural rubber which was saponified with 1 % NaOH at room temperature for 1 hour. A deep color portion is seen at a molecular weight of about 6 to 200 kDa. Since decomposed proteins have different molecular weights, they appear as a wide band and not a narrow band. A deep color portion is seen in this wide band at around 14 kDa (shown by the arrow). This corresponds to a protein having a molecular weight of 14.1 kDa which is an allergen specific to a natural rubber.

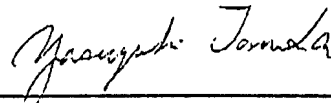
4) Lane 3 shows an example of a natural rubber which was saponified with 1 % NaOH at 70°C for 1 hour. Although a deep color portion is seen at a molecular weight of about 6 to 200kDa, it is not seen that narrow bands corresponding to specific molecular weights overlap with each other.

5) Lane 4 shows an example of a natural rubber which was saponified with 2 % NaOH at room temperature for 5 hours. Although more severe reaction conditions than those of Lane 3 were employed, the band is in the same state as in Lane 3.

6) Lane 5 shows an example of a natural rubber which was saponified with 2 % NaOH at room temperature for 25 hours. Lane 6 shows an example of a natural rubber which was saponified with 3 % NaOH at 70°C for 1 hour. Lane 7 shows an example of a natural rubber which was saponified with 3 % NaOH at 70°C for 5 hours. Wide bands are not seen clearly in these lanes. This is because the amounts of the decomposed proteins extracted from these natural rubbers were small.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Further declarant saith not.



Signature

November 8, 2007

Date

Fig. 4

